Keratoacanthoma of the bulbar conjunctiva

EDITOR,—Keratoacanthoma is a relatively common benign tumour of exposed areas of skin and occurs predominantly in the white-skinned races.[1] In contrast, keratoacanthoma of the conjunctiva occurs rarely.[2-4] Reported here is the fourth case of conjunctival keratoacanthoma and the first to be reported in a black patient.

CASE REPORT

A 37 year old Ethiopian civil engineer, resident in Germany for 10 years, presented with foreign body symptoms in the conjunctiva of the left eye to his ophthalmologist 2 weeks after grinding metal at work. A small white elevated lesion was observed at the limbus and the patient was referred to our hospital with the diagnosis of conjunctival foreign body granuloma. On examination, a white nodular mobile tumour with a centrally hyperkeratotic area, approximately 5 × 4 × 4 mm in size, was apparent at the nasal limbus in the left eye and was surrounded by moderate conjunctival injection (Fig 1). The remaining ophthalmological and systemic examination proved unremarkable; in particular, he was HIV negative. Radiological investigations excluded intraocular radio-opaque foreign material.

The limbal lesion was excised under retrobulbar anaesthesia; it was not adherent to the underlying sclera or adjacent cornea. The excised specimen, placed immediately in 10% formalin, was processed through paraffin for conventional histological examination (haematoxylin and eosin, periodic acid Schiff, and Prussian blue for iron). Additional immunohistochemical investigations were performed using the primary monoclonal antibodies MIB-1 (antigen Ki-67), pan-cytokeratin marker, MNF-116, p53 (clone DO7), and one directed against human papillomavirus (HPV) capsid antigen types 6, 11, 16, and 18.

Histological examination showed a central crater-like acanthotic epithelium surrounded by a collarette of metaplastic but well differentiated squamous epithelium (Fig 2), positive for MNF-116. The surrounding epithelium contained cohesive rounded squamous "eddies" with an intact epithelial basal membrane. Normal conjunctival epithelium was observed at the resection edges. The conjunctival stroma demonstrated marked elastotic degeneration and a moderate diffuse chronic inflammatory infiltrate. Birefringent material or a siderosis was not identified. Immunohistochemical investigations demonstrated a restricted basal cell proliferation (MIB-1) and positivity for p53. All stains for HPV were negative. The lesion had been completely removed.

Follow up of the patient at 24 months after excision did not reveal any recurrence of the lesion.

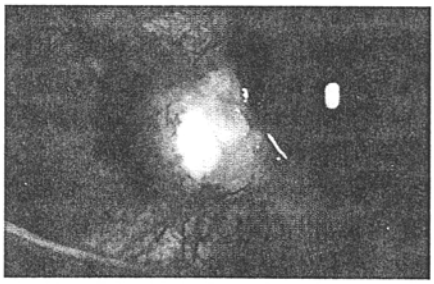

Figure 1 Clinical photograph of the mobile conjunctival mass with a centrally hyperkeratotic area.

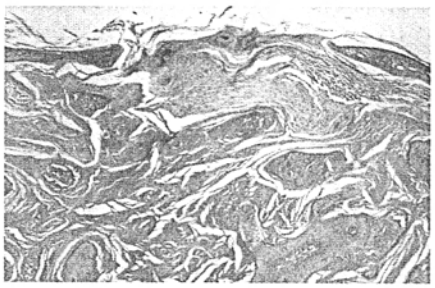

Figure 2 Low power of the histological section of the lesion illustrating a central crater-like area of metaplastic keratinising squamous epithelium with reduced number of goblets cells (haematoxylin and eosin, × 10).

COMMENT

The first case of conjunctival keratoacanthoma was described by Freeman *et al*[2] and two further definite cases have been reported in the literature.[3,4] The present case is unusual in that it occurred in a black patient; all previously reported cases of conjunctival keratoacanthoma occurred in white patients.[2-4]

The appearance of keratoacanthoma is that of a nodule with rounded edges and a central keratin filled crater in its mature form approximately 1–2 cm in diameter in size.[1] Cutaneous keratoacanthomas are characterised by an initial period of rapid growth (4–8 weeks) followed by spontaneous regression, usually complete within 6 months. A similar behaviour has been described in conjunctival lesions with presenting symptoms including a sudden onset of conjunctival injection or irritation or a rapidly enlarging mass. Our patient's association of a foreign body sensation following metal grinding in this case proved to be coincidental. The natural course of conjunctival keratoacanthoma is unknown owing to their early excision.[2-4] The histological criteria for the diagnosis of keratoacanthoma are characteristic with the keratin filled crater and overhanging edges of squamous epithelium, surrounded by an acanthotic epithelium with cohesive rounded epithelial whorls and an intact basal cell layer. The surrounding dermis or conjunctival stroma may demonstrate sun exposure related elastotic degeneration in older patients.

The main differential diagnosis of keratoacanthoma is squamous cell carcinoma which develops more slowly than keratoacanthoma, is less well demarcated, and is not usually characterised by the central keratin filled crater. Histologically, squamous cell carcinoma is characterised by disruption of the epithelial basal membrane, deeper stromal growth, marked epithelial dysplasia, abnormal mitotic figures, extensive desmoplastic reaction, and blood or lymphatic vessel invasion.

Immunohistochemically, cell proliferation and positivity for p53 is no longer restricted to the basal layer. These morphological and immunohistochemical features were not observed in the present case. Where an association between conjunctival neoplasia and HPV has been reported,[5] this has yet to be demonstrated in keratoacanthoma at any site. Grossniklaus *et al* reported cases of conjunctival keratoacanthoma with invasive features.[6] Although it remains controversial whether squamous cell carcinoma can arise from keratoacanthoma, it is more likely that such tumours are well differentiated squamous cell carcinoma mimicking closely the histological features of keratoacanthoma.[1] Such cases underline the importance of close follow up of all patients with diagnosed conjunctival keratoacanthoma.

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Magnetic resonance image changes following optic nerve trauma from peribulbar anaesthetic

EDITOR,—In this case a grand mal seizure occurred after a short peribulbar anaesthetic needle was used, permanent visual loss resulted, and magnetic resonance imaging (MRI) confirmed optic nerve damage.

CASE REPORT

A 49 year old myopic woman was diagnosed as having normal tension glaucoma. A year previously she underwent uncomplicated right trabeculectomy with 5-fluorouracil under local anaesthetic, and surgery to the left eye was planned. Her medication included levobunolol HCl 0.5% twice daily to the left eye, and atenolol for hypertension.

Before left trabeculectomy, with 5-fluorouracil, corrected vision was 6/9 right eye, and 6/5 left. Intraocular pressures were 12 mm Hg and 20 mm Hg respectively.

A painless peribulbar anaesthetic of prilocaine 4% was administered with a 25 mm 27 gauge needle. One injection of 3 ml was given inferotemporally and a second injection of 2.5 ml at the medial canthus.

The eye remained in the primary position throughout. Light ocular compression was applied and after 10 minutes she was prepared for surgery. She then felt cold and started to shiver, and after 5 minutes developed a grand mal fit. Her vital signs remained stable and oxygen and diazemuls were administered. The convulsion lasted 90 seconds and by 20 minutes she had recovered, was fully lucid, and surgery proceeded uneventfully.

The following day corrected vision in the left eye was reduced to hand movements. A bleb was formed, the anterior chamber was deep and the intraocular pressure measured 4 mm Hg. There was a dense afferent pupillary defect and fundal examination revealed cupping of the optic disc as preoperatively.